

Applicant : Gino V. Segre et al.
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Attorney's Docket No.: 00786-071005 / MGH-0459.4
Segre DIV3

41. The method of claim 40, wherein the amino acid sequence of the polypeptide comprises part or all of any one of SEQ ID NOs:5-13.

E¹
~~42. The method of claim 40, wherein the polypeptide is a fragment of a naturally occurring parathyroid hormone receptor.~~

Sub
72
~~43. The method of claim 40, wherein the polypeptide is a fragment of a naturally occurring human parathyroid hormone receptor.~~

Please add claims 52 to 71.

52. The method of claim 40, wherein the polypeptide is a fragment of a naturally occurring opossum parathyroid hormone receptor.

53. The method of claim 40, wherein the polypeptide is a fragment of a naturally occurring rat parathyroid hormone receptor.

E²
54. The method of claim 40, wherein the amino acid sequence of the parathyroid hormone receptor consists of SEQ ID NO:18.

55. The method of claim 40, wherein the amino acid sequence of the parathyroid hormone receptor consists of SEQ ID NO:19.

56. The method of claim 40, wherein the amino acid sequence of the parathyroid hormone receptor consists of SEQ ID NO:20.

Sub
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~~57. The method of claim 40, wherein the amino acid sequence of the parathyroid hormone receptor consists of SEQ ID NO:21.~~

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58. A method for identifying a compound that inhibits the binding of parathyroid hormone to a parathyroid hormone receptor, the method comprising:

- (a) providing a polypeptide consisting of a fragment of a parathyroid hormone receptor, wherein the polypeptide binds parathyroid hormone or a fragment thereof;
- (b) contacting the polypeptide with parathyroid hormone, or a parathyroid hormone receptor-binding fragment thereof, and a test compound; and
- (c) determining whether binding of the parathyroid hormone or fragment thereof to the polypeptide is decreased in the presence of the test compound, wherein a decrease in binding indicates that the test compound inhibits the binding of parathyroid hormone to the parathyroid hormone receptor.

59. The method of claim 58, wherein the fragment of a parathyroid hormone receptor consists of at least six amino acids and less than the complete amino acid sequence of a naturally occurring parathyroid hormone receptor.

60. The method of claim 58, wherein the amino acid sequence of the parathyroid hormone receptor consists of SEQ ID NO:18.

61. The method of claim 58, wherein the amino acid sequence of the parathyroid hormone receptor consists of SEQ ID NO:19.

62. The method of claim 58, wherein the amino acid sequence of the parathyroid hormone receptor consists of SEQ ID NO:20.

63. The method of claim 58, wherein the amino acid sequence of the parathyroid hormone receptor consists of SEQ ID NO:21.

64. The method of claim 58, wherein the fragment of a parathyroid hormone receptor comprises an amino acid sequence of any one of SEQ ID NOs:5-13 or a fragment at least six amino acids in length of any one of SEQ ID NOs:5-13.

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65. The method of claim 58, wherein the fragment of a parathyroid hormone receptor consists of an amino acid sequence that is at least 50% identical to any one of SEQ ID NOs:5-13.

66. The method of claim 58, wherein the fragment of a parathyroid hormone receptor consists of an amino acid sequence that is at least 70% identical to any one of SEQ ID NOs:5-13.

67. The method of claim 58, wherein the parathyroid hormone receptor consists of an amino acid sequence that is at least 30% identical to SEQ ID NO:20.

68. The method of claim 58, wherein the parathyroid hormone receptor consists of an amino acid sequence that is at least 50% identical to SEQ ID NO:20.

69. The method of claim 58, wherein the parathyroid hormone receptor consists of an amino acid sequence that is at least 60% identical to SEQ ID NO:20.

70. The method of claim 58, wherein the parathyroid hormone receptor consists of an amino acid sequence that is at least 75% identical to SEQ ID NO:20.

71. A method for identifying a compound that inhibits the binding of parathyroid hormone to a parathyroid hormone receptor, the method comprising:

(a) providing a purified parathyroid hormone receptor or a parathyroid hormone-binding fragment thereof;

(b) contacting the parathyroid hormone receptor or fragment thereof with parathyroid hormone or a parathyroid receptor-binding fragment thereof, and a test compound; and

(c) determining whether binding of the parathyroid hormone or fragment thereof to the parathyroid hormone receptor or fragment thereof is decreased in the presence of the test compound, wherein a decrease in binding indicates that the test compound inhibits the binding of parathyroid hormone to the parathyroid hormone receptor.